

WO 2005/015051

PCT/US2004/025506

CLAIMS

What is claimed is:

1. A vibration isolator for mounting between a pair of support members, comprising:
 - 5 a housing adapted to be mounted to a first one of said pair of support members, said housing including a base portion, a sidewall portion extending from said base portion at a first end of said sidewall portion and an inwardly turned flange portion at a second end of said sidewall portion, said inwardly turned flange portion defining an opening having a major length
10 dimension and a major width dimension, said major length dimension being larger than said major width dimension, said sidewall portion having a major inner length dimension and a major inner width dimension;
a core element adapted to be mounted to a second one of said pair of support members and having a portion thereof disposed within said housing,
15 said portion of said core element having an outer length dimension that is a) smaller than said major length dimension of said opening, b) greater than said major width dimension of said opening and c) smaller than said major inner width dimension of said sidewall portion of said housing, said portion of said core element having an outer width dimension that is a) smaller than said major width
20 dimension of said opening and b) smaller than said major length dimension of said portion of said core element, said core element being arranged in said housing such that said major length dimension of said portion of said core element extends in a same direction as said major width dimension of said opening in said housing;
and
25 an elastomeric spring member molded between said housing and said core element.
2. The vibration isolator according to claim 1, wherein said core element includes a mounting portion extending through said opening in said housing.
- 30 3. The vibration isolator according to claim 1, wherein said opening in said housing is generally rectangular.

WO 2005/015051

PCT/US2004/025506

4. The vibration isolator according to claim 1, wherein said base portion of said housing includes a mounting aperture for receiving a fastener therein.

5. A vibration isolator for mounting between a pair of support members, comprising:

a housing adapted to be mounted to a first one of said pair of support members, said housing including a base portion, a sidewall portion extending from said base portion at a first end of said sidewall portion and an inwardly turned flange portion at a second end of said sidewall portion, said
10 inwardly turned flange portion defining an opening having a major length dimension and a major width dimension, said sidewall portion having a major inner length dimension and a major inner width dimension;

a core element adapted to be mounted to a second one of said pair of support members and having an insert portion thereof disposed within said
15 housing, said insert portion of said core element having an outer length dimension that is a) smaller than said major length dimension of said opening, and b) smaller than said major inner width dimension of said sidewall portion of said housing, said portion of said core element having an outer width dimension that is smaller than said major width dimension of said opening, said core element being
20 arranged in said housing such that a dimension of said insert portion of said core element extending in a same direction as said major width dimension of said opening in said housing is larger than said major width dimension of said opening; and

an elastomeric spring member molded between said housing and
25 said core element.

6. The vibration isolator according to claim 5, wherein said core element includes a mounting portion extending through said opening in said housing.

7. The vibration isolator according to claim 5, wherein said opening
30 in said housing is generally square.

8. The vibration isolator according to claim 5, wherein said base portion of said housing includes a mounting aperture for receiving a fastener therein.

WO 2005/015051

PCT/US2004/025506

9. A method of making a vibration isolator, comprising:

forming a housing having a base portion, a sidewall portion extending from said base portion at a first end of said sidewall portion and an inwardly turned flange portion at a second end of said sidewall portion, said inwardly turned flange portion defining an opening having a major length dimension and a major width dimension, said major length dimension being larger than said major width dimension, said sidewall portion having a major inner length dimension and a major inner width dimension;

forming a core element having an insert portion with an outer length dimension that is a) smaller than said major length dimension of said opening, b) greater than said major width dimension of said opening and c) smaller than said major inner width dimension of said sidewall portion of said housing, said insert portion of said core element having an outer width dimension that is a) smaller than said major width dimension of said opening and b) smaller than said major length dimension of said portion of said core element;

inserting said insert portion of said core element through said opening in said housing and rotating said core element relative to said housing such that said major length dimension of said insert portion of said core element extends in a same direction as said major width dimension of said opening in said housing; and

injecting an elastomeric material between said housing and said core element.

10. A method of making a vibration isolator, comprising:

forming a housing having a base portion, a sidewall portion extending from said base portion at a first end of said sidewall portion and an inwardly turned flange portion at a second end of said sidewall portion, said inwardly turned flange portion defining an opening therethrough;

forming a core element having an insert portion configured to fit through said opening in a first orientation and not to fit through said opening in a second orientation;

inserting said insert portion, in said first orientation through said opening in said housing;

WO 2005/015051

PCT/US2004/025506

rotating said core element relative to said housing to said second orientation; and

injecting an elastomeric material between said housing and said core element.